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ABSTRACT

A growing body of research indicates that formal discovery, or heuristic, procedures can enhance the composing process of sophisticated university students. Other studies suggest that below-average and average students can benefit from a similar approach. Specifically, the introduction of a model based on tagmemic heuristic theory in an adult business communications course was found to produce a significant improvement in prewriting organization but equivocal results in actual student composition. Too little is known about how students feel about employing a heuristic model and about what kinds of attitudinal changes must occur for the model to be successful. Employing a communication sequence such as that suggested by McGuire can perhaps shed more light on the actual processes involved when a heuristic approach to composing is implemented. (KS)

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RUN IT THROUGH THE MODEL, AGAIN:

USING HEURISTIC PROCEDURES WITH AN ADULT WRITING CLASS

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CONTENTS

Introduction..... 1

The Adult School Model..... 3

Questions Suggested by my Class Experience..... 6

Some Possible Applications of Communications Theory..... 7

McGuire's Model and the Heuristic Procedure Process..... 9

Summary..... 11

Bibliography..... 13

INTRODUCTION

In 1964, Rohman and Wlecke raised a most important experimental question. They wondered whether or not a writing course, at the university level, could succeed in producing better essays by emphasizing the pre-writing stage of the composing process. Class activity was planned around the keeping of a journal, practice in some principles taken from religious meditation, and exercises in the use of analogy during a six unit, one semester composition course.

Lee Odell's study (1970) predicted that if university students learned to use a tagmemic heuristic model to guide their inquiry, their ability to examine data would improve; there would be fewer conceptual gaps in their writing; and, their problem-solving ability would also improve. Instruction in Odell's one semester course was designed around six instructional units that (1) familiarized students with the major components of the tagmemic heuristic model: contrast, variation and distribution, (2) then applied the model in various literary and non-literary settings.

A study completed by Young and Koen (1973) aimed at increasing student awareness of problematic situations. Throughout their one semester course, university students were asked to analyze, specify and explore problematic situations; test hypotheses; finally, to vary their sense of audience awareness.

Each one of these studies makes a similar assumption about the way composition is usually taught; invention--the rhetorical process of discovering ideas to write about--is largely ignored. All of these studies demonstrated

that a course of instruction centered in the use of a heuristic procedure--an open-ended series of questions or operations that elicit a multi-dimensional view of a unit being examined--could be helpful. Each study shared another common feature: a population of mature, sophisticated university students who could be described as above average composers. A reasonable question to raise, at this point, might be will heuristic procedures only be effective with an above-average university population?

Jerome Bruner has pointed out that "It is interesting to what degree perfectly ordinary people can, given the benefit of instruction, construct quite interesting and what, a century ago, would have been considered greatly original models (1962)." There are at least two studies that confirm Bruner's observation by showing that formal discovery procedures can be used in the high school classroom.

A study completed by Lois Widvey (1971) compared the results of the teaching of written composition using a problem-solving approach with the results obtained with a more traditional approach. Widvey also employed a standardized test of reflective thinking to determine if the problem-solving approach had indeed produced a difference in students' reflective thinking ability. She found that the problem-solving approach had produced learning of reflective thinking skills to a significantly greater degree than did the control method.

Odell and Cohick (1975) informally explored the use of discovery procedures with a group of ninth graders. Students were taught a heuristic procedure based on a system developed by Richard Young, Alton Becker and Kenneth

Pike (1970). Student exercises were designed around changing perspective to bring out different details or aspects of a topic (FOCUS); taking into account a topic's surroundings (PHYSICAL CONTEXT); locating a topic within a temporal, causal, or hypothetical sequence (SEQUENCE); observing various fluctuations (CHANGE); noting how a unit differs from other things (CONTRAST); finally, taking into consideration what it has in common with other things (CLASSIFICATION). Excerpts from student compositions showed that progress was made toward student sensitivity to the process of revision, particularly in the area of time and causal sequence and physical context.

THE ADULT SCHOOL MODEL

Encouraged by the results obtained by Widvey and Odell and Cohick, I decided to incorporate a heuristic model into an evening division Business Communications course I was teaching. My students were all male veterans, between 22 and 50 years of age who could be described as average and below average composers. All of my students were enrolled in a course that would eventually lead to an associate's degree in Business Administration. Over a 12 week period, students were engaged in various business oriented writing tasks: business letters, resumes, and problem-solving memoranda. The major types of discourse were what James Kinneavy (1971) might describe as referential and persuasive.

I introduced a model based on tagmemic heuristic theory with questions designed to draw student attention to contrast, variation and distribution features of a unit under examination. The audience features were included not only because many business communications have secondary audiences, but to

expand student perspective by anticipating possible disagreeing viewpoints. I instructed students to employ the worksheet to generate ideas prior to their first and succeeding drafts of an assignment. The model used was the following:

DEFINING FEATURES

--Can I describe this unit in one sentence?
--Can I summarize this unit in one short phrase?
--What features make this unit different from other things I know?
--What features does this unit share with other things I know?

CHANGE FEATURES

--What was the unit like in the past?
--What is the unit in the process of becoming?
--What might the unit become in the future?
--What could the unit definitely not become in the future?

DISTRIBUTIONAL FEATURES

--This unit reminds me of _____ because_____.
--When does this unit occur?
--What precedes this unit?
--What happens after the unit occurs?
--Can anything be said to cause the occurrence of this unit?
--Does the unit cause any kind of occurrence?
--How can the unit be distributed into a larger class of units?

AUDIENCE FEATURES

--Who will be my primary audience?
--Will I have a secondary audience?
--How might my audience disagree with my interpretations of:
  (a) defining features
  (b) change features
  (c) distributional features
--How would I defend my interpretations?

After employing the model throughout the twelve week course, I learned that most students were receptive to the idea of the heuristic model and could definitely see that it could move them into areas of inquiry they might have overlooked. I did collect worksheet responses and it was evident that students were arriving at a wider perspective on whatever unit they happened to be examining. Class discussion seemed to move away from the quick, reductive, superficial answer to more of a sensitivity to the complexities of problem-solving. The model also seemed successful in having students consider alternative points of view, at least in the pre-writing stage of the composing process.

The most disappointing aspect of employing the model throughout the course was that its impact seemed restricted to the pre-writing stage. In examining subsequent student drafts, it seemed evident that as students progressed into the drafting stage, they were paying less attention to their excellent worksheet ideas. Even taking into consideration the relatively brief instructional time, the late hour we were meeting, and the large class size the model seemed to have little impact on student writing. Students were able to arrive at numerous perspectives on a problem and to defend their perspectives in the worksheet, but not in the drafts that followed. My students went just so far with the model and no further. Where Widvey and Odell and Cohick had succeeded, I had met with just limited success.

Student Reactionnaires, completed during our last class session, provided several interesting insights into student perceptions of the course. One

student reported that he really enjoyed learning how to use all those eucharistic procedures. The most revealing statement, made by several of the class members, was that they could see value in the model, however, it seemed too much work to use it during the drafting stages of composing.

QUESTIONS SUGGESTED BY MY CLASS EXPERIENCE

The disappointing results of the class led me to re-examine the literature again. It seems we do have numerous formal and informal studies that tell us a great deal about the use of heuristic procedures. For example, we do know they help in the formation of hypotheses; they can help in increasing sensitivity to problem-solving; they can suggest areas of exploration to achieve a wider perspective on a problem. We know very little about how a student feels about using heuristic procedures during the composing process. Are they too much work? Why? What are students' understandings about what heuristic procedures are supposed to accomplish? Since we are asking students to alter their attitudes about composing from a predominately STYLE/FORM viewpoint to an INVENTION/STYLE/FORM approach, what has to occur for students to become persuaded to accept that change? What are the stages a student moves through in incorporating data obtained from using a heuristic procedure into subsequent drafts? At what point in the composing process can students move away from my worksheet approach to an internalization of the model? One possible approach to some of the questions I have raised may be in a suggestion made by Kinneavy and Kline in their excellent essay "Composition and Related Fields (1976)." They point out that "Some important directions in rhetorical criticism and theory which could well be made relevant to the teaching of composition

are developing in speech communication (p. 255)."

SOME POSSIBLE APPLICATIONS OF COMMUNICATION THEORY

The Kinneavy and Kline essay led me to an examination of the Yale school of communication theorists. The research of Hovland, Janis and Kelley (1953, 1959) made the basic assumption that the effect of a given communication depends on the extent to which that communication is attended to, comprehended, and accepted. According to the Yale approach the first two steps will determine what the decoder of the communication will learn about the encoder's message, other processes determine whether or not the decoder will accept or adopt what (s)he learns. Would the Yale approach be a helpful way of describing my own Business Communications course? My students had attended to and comprehended my message as evidenced by the worksheets they handed in. They did not fully accept or adopt the model since their written product reflected little significant change. The Yale model is helpful, but really doesn't account for the vast distance between comprehension and acceptance.

W. J. McGuire (1968, 1969), building on the Yale approach, noted that the effects of communication depended on two factors: learning what is being communicated and accepting what is learned. McGuire combined attention and comprehension into a single factor he called reception. The process of communication involved two steps: reception of the message content and yielding to what is comprehended. If I were to apply McGuire's model in describing my half-successful adult school course, I could say my message was received, but, since it produced little opinion change, lack of attitude change was due to a low degree of yielding. If McGuire's model were applied

to describing either the Young & Koen or the Odell study, there would be evidence that not only did these researchers achieve a high degree of reception, there was also evidence of a high degree of yielding.

The idea of yielding is still rather global. We could have a student who shows evidence of yielding throughout the course and who ceases to yield a day after the course ends. Apparantly McGuire felt uneasy about this also. Although his research concentrated on reception (attention and comprehension) and yielding, McGuire suggested two additional steps in the process of attitude change: retention of the position agreed with and action in accordance with the retained agreement. From McGuire's perspective attitude change is described as a process that involves five sequential steps. They can be depicted in the following manner:

1. Attention
2. Comprehension

} Reception

3. Yielding
4. Retention
5. Action

} Attitude Change

McGuire reports that the receiver must go through each of these steps if communication is to have an ultimate impact on attitudes. He also reports that success of each step depends on the occurrence of the preceding step.

In using McGuire's framework to describe my own experience with my adult writing class, I could say that they were able to reach the reception stage of attitude change, but there was evidence of low yielding, hence negligible retention and action. Using the same framework to describe the Odell and the Young and Koen study, I could report that both studies moved students beyond the reception stage to the retention stage of attitude change.

MCGUIRE'S MODEL AND THE HEURISTIC PROCEDURE PROCESS

Up to this point, I have been employing McGuire's model to subjectively describe whole-class progress in using a heuristic procedure. We still know too little about the process of employing a heuristic procedure with students. The area of inquiry that I would like to explore will no doubt require a dual research focus, utilizing both whole-class and case study design. I would like to explore the following questions in both aspects of the design:

(1) Can we isolate and describe steps in the process of using a heuristic procedure?

(2) Is McGuire's model helpful in describing the movement toward incorporating a heuristic procedure into students' composing process? Does the model, in fact, describe what occurs when a student accepts a heuristic and takes it into succeeding drafts?

There are a group of questions that would seem to lend themselves to whole-class inquiry. For example, can we say students have reached the reception stage when they can produce worksheets demonstrating comprehension of the heuristic procedure? Will examining first drafts tell us whether they

are yielding by incorporating the heuristic--or parts of it--into their writing? Odell and Cooper's Intellectual Strategies (1976) might constitute a useful measurement of the degree of yielding. Will examining the final, edited copy give us an indication of retention of the heuristic procedure? Can we get some idea of the action sub-stage of attitude change by examining composing in other content areas?

In addition to its potential usefulness in describing subjectively the progress of an entire class, could McGuire's model be helpful in exploring a basic question about the discovery process that was raised by Richard Young in his essay "Paradigms and Problems: Needed Research in Rhetorical Invention (Cooper, Odell, 1977)?"

> Is the (composing) process the same for all kinds of discourse and rhetorical purposes? (We often speak as if there were only one composing process.) Or are there different kinds of processes for which different theories of invention are appropriate and inappropriate?

We might be able to begin to explore Young's question by limiting a study to one type of discourse--say persuasive--and by talking to and tape recording a small group of students and by collecting every scrap of paper and every draft they produce over a period of one semester. While a student is in what McGuire would call the reception stage, we might pose the following questions:

> What problems are you encountering using the heuristic procedure?
> In what way(s) has the heuristic procedure been helpful to you?
> What is the most difficult aspect of using the heuristic procedure?
> What is the easiest aspect of using the heuristic procedure?
> Are you using the worksheet approach?
> Are you finding that some components of the heuristic procedure are occuring more often than others (e.g., more contrast than classification)?

What did it reveal to you about the unit you are examining that you hadn't realized before using the heuristic model?

While a student is in what McGuire would call the yielding stage, we might pose some of the following questions:

Did any part of the heuristic procedure (e.g., contrast) seem more helpful in organizing your first draft?
Did you run it through the model again? (This question gets at another question raised by Young about whether or not invention occurs merely at the beginning of the process or throughout (Cooper, Odell, 1977)
Did you reject any part of the heuristic procedure as being inappropriate to your first draft? Why?
What problems are you encountering in using the heuristic procedure?
Have the heuristic procedures been helpful in any way?
Have they proved troublesome? In what ways?
Are you still referring to the worksheet? How much of the process has been internalized?

After we receive the final draft, we could get some idea of the degree of what McGuire refers to retention by the evidence of heuristic procedures in the final draft. We may also be able to guage the degree of action by some of the following questions:

Did you run it through the model again?
How much of the heuristic procedure do you feel you have internalized?
Are the heuristic procedures helping you in any other classes?
Have they made any difference in the way you feel about composing?

SUMMARY

Throughout this paper, I have argued that there is a growing body of research to indicate that formal discovery procedures can enhance the composing process of mat[illegible], sophisticated university students. There are some other studies that suggest less than average and average students can benefit from a similar approach. Students have demonstrated imp[illegible]ovement by application of a heuristic model. We still know too little about how students

feel about employing the model, or, what kinds of attitudinal changes must occur when the model is successful. Finally, I have advanced the argument that by running it through the model again and employing a communication sequence suggested by McGuire, we may learn more about the process of employing a heuristic procedure.

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